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AUTHOR Fletcher, Richard K., Jr.; And Others
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ABSTRACT

The Pre-Professional Skills Test (PPST) has been given to all students as an entry requirement into teacher education programs at Tennessee Technological University (Cookeville) since 1983. All students at the University are also required to take the American College Test (ACT). One of the questions in this study related to whether the same or similar information was already available from the ACT as was measured by the PPST. Further questions were examined regarding the relationship between the PPST and the ACT and measures of academic success, college grade point average (GPA), and scores on the National Teacher Examination (NTE). The study sample was comprised of 357 students enrolled at Tennessee Technological University between September 1984 and May 1989, who had taken both the PPST and the NTE prior to May 1989. Results from the analysis of 270 graduates reveal correlations between similar subtests of the PPST and ACT ranging from 0.58 to 0.71. The correlations between similar subtests of the PPST and NTE ranged from 0.51 to 0.71. Correlations between the predictor variables and GPA ranged from 0.05 to 0.32. Values for multiple correlations were slightly higher than were those for simple correlations. Twenty-eight tables present data from the study. (Author/SLD)

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Relationships Between the PPST and ACT Admissions Tests for Teacher Education and College GPA and NTE

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by

R.K. Fletcher, Jr.

Steven W. Gwilt

Sandra J. Smith

Tennessee Technological University

Presented at

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ABSTRACT

"RELATIONSHIPS BETWEEN THE PPST AND ACT ADMISSIONS TESTS FOR TEACHER EDUCATION AND COLLEGE GPA AND NTE"

Richard K. Fletcher, Jr., Tennessee Technological University
Steven W. Gwilt, Tennessee Technological University
Sandra J. Smith, Tennessee Technological University

The Pre-Professional Skills Test (PPST) has been given to all students as an entry requirement into teacher education programs at Tennessee Technological University since 1983. All students at the University are also required to take the American College Test (ACT). One of the questions in this study related to whether the same or similar information was already available from the ACT as was measured by the PPST. Further questions were examined regarding the relationship between the PPST and the ACT and the measures of academic success, college grade point averages (GPA) and scores on the National Teacher Examination (NTE).

Results from the analysis of 270 graduates revealed values of r between similar subtests of the PPST and ACT ranging from 0.58 to 0.71. The r values between similar subtests of the PPST and NTE ranged from 0.51 to 0.71. Values for r obtained between the predictor variables and GPA ranged from 0.05 to 0.32. Values for multiple correlations were slightly higher than those for simple correlations.

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Introduction

In recent years there has been a concern about the state of the country's education system. Many reports and books have been written that question the academic qualities of teachers. As a result, teacher testing has become an important issue in the improvement of teacher quality. Legislatures are demanding more accountability on the part of teachers, and one of the simplest forms is to administer paper-pencil tests.

There is a current trend to use paper-pencil tests at three levels of a teacher education program: entrance to the college or university, entrance to the teacher education upper-division level, and certificate registration. The test that is most commonly used for admission to a college or university is the American College Test or ACT. The Pre-Professional Skills Test (PPST) is used for entrance to the teacher education program, and the National Teacher Examination (NTE) is used to gain certification. Individuals preparing to be teachers are required to complete more tests than any other group of college students. Testing requires the use of precious resources that might be put to work in other ways (Sibert 1989).

It is the contention of this paper to present an overview of the teacher testing issue in general, and to show that testing for entrance into teacher programs may be a redundant act given the fact that evidence indicates that the scores on these tests can be predicted with considerable reliability from scores on other examinations.

Questions of particular relevance that need to be considered as states and institutions implement teacher-testing programs are whether students should be required to expend the additional time and money to take the PPST if they have performed at a certain level on the ACT or SAT. Is there

sufficient evidence that the PPST and the ACT provide redundant information? Should adequate ACT scores substitute for the requirement of taking the PPST for entrance into a teacher preparation program?

Review of Related Literature

Public trends toward education in the U.S. tend to follow an observable pattern; for a time there is no discernible concern about the quality of education, which is then followed by a mass concern that education is not adequate, in turn calling for reforms and reassessment of educational curriculums and ideals.

A Gallup Poll performed in the spring of 1986 revealed that the public expressed these same concerns. It was reported that 85 percent of the public favored competency testing for teachers (Martin 1987). It is possible that the call for teacher competency testing was an immediate reaction to the overall concern. Discontent over the quality of education may be fostered by the notion that the system includes many "incompetent" teachers. It was reasoned that one of the most rapid ways to increase the quality of that system was to increase the quality of its teachers (Webster 1984).

In a society where the educational system is questioned, it would seem natural to regard the incompetence of teachers as the cause for educational shortcomings. Several events over the past decades have contributed to the publics' concern over the state of education. The launching of Sputnik was perhaps the most prominent event in modern U.S. history to bring about alarm at the condition of this country's educational situation. The concern for the quality of teachers was evident by the avalanche of publications in the 1960's and 1970's that were highly critical of the schools. Books by prominent authors such as James B. Conant, John Holt, James Koerner, Charles

Silberman, and others raised questions about the quality of American education including the education, or "miseducation" as they labeled it, of American teachers (Rudner 1987).

An educational reform emerged in response to the growing public lack of confidence in the educational system. A major contribution of this reform was the teacher testing movement. Testing for the purpose of screening persons prior to state certification is on the upswing in the United States.

The rapid growth of teacher competency testing in contemporary America has been one of the fastest movements in education. The teacher certification movement had its origins in the South, spreading from Georgia, Louisiana, and Florida to the West and Northeast. From 1964-1977, only North Carolina required a teacher certification examination. The practice of teacher testing for certification was reintroduced in 1977 in Louisiana. One year later, Florida started to develop its teacher testing program (Rudner September 1987). As of April 1987, every state except Alaska and Iowa had either implemented or was planning to implement some form of teacher testing program (Rudner August 1987).

Although individual colleges of education have been testing prospective students for years, uniform state standards for assessing prospective teachers' competencies in basic skills prior to admission is recent. Of the 27 states with such policies, only Tennessee's 1979 implementation occurred prior to 1980 (Rudner August 1987).

Two reports, The National Commission on Excellence in Education, 1983, and the Holmes Group in 1986 called for higher standards for admission in teacher education and the teaching profession. In 1984, the Southern Regional Educational Board published a monograph, *Measuring Educational Progress in the South: Student Achievement*, which documented increasing

emphasis on testing and other forms of assessment in the South. At that time, fourteen Southern states had formal, state-wide assessment programs for elementary and secondary level students (Pratt 1987).

The teacher testing movement has over time evolved into some basic components which generally reflect national trends within the program. Early state entries into teacher testing were usually the results of legislative mandates. Most are now mandated by state boards of education. The testing is usually of the paper-pencil type although teacher performance assessment testing has been gaining zeal. Testing is viewed as one of several ways to improve teachers quality and the quality of American education.

Most of the paper-pencil teacher testing is being done by Educational Testing Service (ETS) or National Evaluation Systems. Test-enforced standards for admission to teacher preparation programs and for initial certification are seen by proponents as means to "screen out" unqualified individuals, to strengthen the profession, and to attract better-qualified candidates (Rudner August 1987).

Though some teacher preparation departments are concerned with testing subject matter and knowledge of teaching skills at or near the termination of the program of study, a more immediate concern is the testing of students basic skills prior to admission to the program. Such basic skills tests are required as a result of decisions by individual institutions or mandates by state legislatures or state school boards. The tests are being implemented in three distinct levels: before entrance into teacher education, at the end of teacher education, and for certificate renewal.

Testing **before entrance to teacher education**, often referred to as *admission testing*, is usually performed as a prerequisite to a student's acceptance into upper-division, or teacher preparation programs. These tests

usually assess the student's basic skills and/or general knowledge regarding reading, writing, mathematics, social sciences, sciences, and literature and fine arts. Twenty-seven states are implementing such programs (Rudner September 1987).

The test most commonly used for admission to teacher education programs is the Pre-Professional Skills Test (PPST). The PPST are the most recently developed and are rapidly gaining popularity as a basic skills measure for program admission. The PPST are most often used by institutions of higher education for entry to teacher training programs. Some institutions of higher education have established criteria for program entry at the junior level while others require scores from students but do not use them for admission decisions (Goodison 1985).

Developed by Educational Testing Service (ETS) in 1983 for use initially at the program admission level, the PPST consists of three subtests measuring reading, writing, and mathematics skills respectively, and are designed to provide objective, standardized measures of basic proficiency in the basic skills areas. Basic proficiency is defined as the minimum achievement level appropriate for graduates of secondary schools who may have had up to two years of post-secondary education. Use of the PPST has increased rapidly since the first administration in 1983, when approximately 5,000 candidates took the test, to the candidate volume of over 30,000 in 1985 (Askamit).

The total testing time for all three tests is two and a half hours. The contents of the tests are outlined below.

Reading:	40 multiple choice questions 40 minutes
Objective:	Examinee demonstrates abilities to understand, analyze, and evaluate written messages.

Mathematics: 40 multiple-choice questions
50 minutes

Objective: Examinee demonstrates competencies in mathematics that include:
-understanding how numbers behave
-using numbers in an appropriate way
-recognizing and using mathematical relationships
-understanding the mathematical basis of measurements.
-interpreting graphics, symbolic and verbal material

Writing: 45-multiple choice questions
30 minutes
Sentence Correction and Usage
1 Essay topic
30 minutes
General content
holistically scored

Objective: Examinee demonstrates the ability to use standard written English correctly and effectively. This includes:
-correct use of grammar and logical relationships
-correct use of diction, idiom, and mechanics effective use of written communication with a specific aim or purpose (essay)

Through a process of test validation and standard setting, state departments of education, school districts, and individual institutions determine the appropriateness of the test for their specific purposes.

Since the test is not norm-referenced, an individual's performance will be made in direct relationship to the specified standards set forth by the concerned organization. PPST clients use PPST scores only to establish eligibility for a pool of qualified candidates, not to rank or differentiate among qualified candidates in the pool.

Each PPST score is reported on a nondistributive scale of 150-190. Nondistributive scales are scales that are not based on the performance of groups of individuals. These scales are independent of the characteristics of

either arbitrary groups or samples of examinees systematically drawn from clearly defined populations. A score of 150 is the minimum score possible and a score of 190 is the maximum score possible. The standard error of measurement is approximately three scaled score points. Forms are equated by common-item equating. The equating of the Writing test is based only on the multiple choice section. The tests are not "normed". There is no data based on a nationally representative sample of an appropriate population. The score distributions reported in the PPST score interpretation leaflets are based on the scores of all examinees who have taken the PPST for a variety of reasons. The examinee group includes college students at all levels and college graduates (Goodison 1985).

Testing performed **at** or **near the completion of the teacher preparation program**, often referred to as certification testing, in some states is done during the first year of actual teaching. These tests usually assess an individuals professional knowledge/teaching skills knowledge and/or specific content knowledge within certification areas. The teaching skills tests usually attempt to assess an individuals knowledge of teaching methodology/practices and instructional/ planning/ implementation/ evaluation. The content area knowledge tests usually attempt to assess the candidates' specific content knowledge of the field or fields in which they intend to teach and/or are seeking certification (Flippo 1985). Forty-four states are implementing such programs, making certification tests the most common form of teacher testing at the present time (Rudner September 1987).

The NTE programs, formerly called the National Teacher Examinations, are the most frequently-used tests for teacher certification, and are also produced by the Educational Testing Service. The NTE are composed of a

Core Battery covering the communication skills of listening, reading, and writing; the general knowledge of social studies, mathematics, literature and fine arts, and science; and the professional knowledge of teaching. The complete Core Battery contains 340 multiple choice questions and one essay item. It requires 5 1/2 hours to complete. Test names, section, and components are as follows:

Test of **Communication Skills**

1. Listening	40 multiple choice questions
2. Reading	30 multiple choice questions
3. Writing	45 multiple choice questions
4. Writing	one essay question

Test of **General Knowledge**

1. Social Studies	30 multiple choice questions
2. Mathematics	25 multiple choice questions
3. Literature and Fine Arts	35 multiple choice questions
4. Science	30 multiple choice questions

Test of **Professional Knowledge**

4 sections of 35 multiple choice questions each, only 3 of which are scored (Wilson 1986).

Presently, the NTE is used primarily for state certification of K-12 grade teachers in eight states, and secondarily for program evaluation and teacher selection in about 25 states. Historically, its use has been prevalent in the Southeast and in California, but more recently other states across the nation have considered NTE use.

Content validation procedures currently used by the NTE Program to assist state boards begin with judgments by panels of educational experts who determine the congruence of test specifications to teacher education curricula and instruction in their state. The next step is to apply conceptions of competence in making judgments about the performance of hypothetical minimally competent examinees on the test questions provided to the panelists (Wilson 1986).

The test for **certificate renewal** is administered either when a state mandates, or when a teacher is due for renewal of certification. Tests given at this time could consist of any combination of tests already mentioned, depending on the state's decision. Some states do or will consider use of these tests for assignment of salary levels/career ladders (Flippo 1985). Three states have such programs (Rudner September 1987).

The first three types of tests, admissions, certification, and recertification, do not test actual teaching ability. Rather, they test knowledge and skills believed to be prerequisites to teaching, and many test knowledge about teaching (Rudner September 1987).

Marleen C. Pugach and James D. Raths (1983) have outlined some basic assumptions concerning the trend of teacher testing. These assumptions, are:

> "1. Teachers who pass the tests are more effective in their roles than teachers who do not.
>
> 2. The quality of candidates in teacher education will improve due to the implementation of testing programs.
>
> 3. Public opinion of teachers and the teaching profession will be enhanced by the widespread knowledge that teachers must pass tests to acquire certification.

4. A "critical" point can be identified in a distribution of test scores, with those above the cut deserving to be certified and those below not.

5. The gatekeeping function is typically absent in programs of teacher education.

As was true in some cases with state competency testing for students in the 1970's, the rush to legislate excellence through teacher testing in raising some troubling questions and leading to some decisions that are educationally unsound.

One such decision, now law in several states, makes continued accreditation of teacher preparation programs dependent on the test performance of the prospective teachers they enroll. The Educational Testing Service has testified against using teacher tests in this way. Such use fails to recognize that from 60%-80% of the college preparation received by prospective teachers is in academic departments, not in the department of education. On the NTE Core Battery, for example, more students seem to have difficulty qualifying on the Test of General Knowledge than on the Test of Professional Knowledge. Accountability for teacher education should rest with the entire college or university, not solely with the teacher preparation unit. If significant numbers of prospective teachers graduating for a college or university are failing to meet the state's minimum standards for certification, the state certainly has a right and an obligation to question such a trend (Anrig 1986).

Problems may arise in the reporting of the test results. Since individual scores are not considered beyond pass/fail, there is no distinction between an individual who passes the test by a point and the individual who may answer every question accurately. An individual who passes the test on the third or

fourth attempt is not differentiated from the person who passes on the first attempt.

When institutions compare results, inaccurate conclusions may be drawn as data indicate the pass/fail rate at each institution. The comparisons rarely take into account the varying populations at particular schools within a state. Moreover, many of these same universities may have implemented programs, courses, or tutoring sessions directed solely at passing the test. The use of the test is usually perceived as a measure of the quality of the universities, faculties, and their teacher education programs.

According to Lawrence M. Rudner (September 1987), there are at least two potential disadvantages to quantitative standards for teacher education program admissions and certification.

"1. Policies that restrict entrance to the profession may contribute to a teacher shortage.
2. A disproportionate number of minority students fail to gain entry into the teaching field because of low pass rates on the tests."

In addition to the concerns cited above, some of the arguments against teacher testing are:

"a. Testing alone may not improve teacher quality, though it has the potential of the "Screening out" individuals whose academic preparation is weak.
b. The tests reflect an overreaction to a problem that may not exist.
c. The tests are inappropriate."

Legal issues have been considered in several courts concerning the use of teacher certification tests. Ruling established in the case, United States versus South Carolina establishes that states may use written tests that have been designed and validated to disclose the minimum amount of knowledge necessary for effective teaching(Rudner September 1987).

Other issues based on case law, state:

a) tests affecting job status should be shown to be job-related and serve legitimate school objectives;
b) instruments should be constructed by qualified professionals;
c) the instruments should be validated for the specific jobs for which they are used;
d) individuals should be provided with adequate notice of the test requirements (Rudner September 1987).

Rudner (August 1987) notes important questions that have yet to be satisfactorily answered.

> Does the ability to perform on an admission, certification, or recertification test relate significantly to classroom performance?
>
> Do teacher testing programs actually yield improved public confidence?
>
> Do existing observation instruments accurately indicate everyday classroom behaviors?
>
> Which other modes of assessment beyond paper and pencil tests can be used for improved teacher testing?
>
> What are the lower limits of knowledge and skill necessary to teach different ages and different subjects effectively?

These questions challenge some of the assumptions behind the teacher testing movement. Of great concern, is the notion that paper-and-pencil tests, though useful in determining an individual's command of basic skills, fails to address actual teacher performance and other critical issues not readily measured by any type of test. Personality, fortitude, patience, motivation, and sensitivity, all important characteristics of a teacher, are not measured in any standardized form. Present teacher examinations tend to differ from other general assessments of adult achievement in terms of content rather than format, but they are criticized on both counts because of validity concern (Wilson 1986).

If the trend is to indeed test, what is needed is a test that actually measures or predicts teacher effectiveness. Though tests to measure basic skills and knowledge of teacher skills/classroom management are useful (if not used as a sole criterion for entrance to or exit from a teacher education program), they do not measure factors equally important in the real, daily classroom situation.

Sample Information

The criteria used in sample selection were students who were enrolled at Tennessee Technological University at any time between September 1984 and May 1989. The sample was comprised of those students who had taken both the Pre-Professional Skills Test and the NTE prior to May 1989. Other data, such as College GPA and ACT scores were gathered, however, ACT scores were not available for students who had transferred from other Universities or Community Colleges.

The total sample included 357 individuals. Of the 357 sampled, 271 were female and 86 were male. Majors of the students were as follows:

Undeclared	3
Elementary Education	110
Early Childhood Education	31
Secondary Education (any field)	111
Agriculture or Home Economics Education	21
Special Education	34
Health and Physical Education	29
Music Education	18

The group was also broken down into two sub-groups: those who had taken the PPST only once and those who took it more than once.

Group 1 (only once)	270
Group 2 (more than once)	87

Another sub-group taken into consideration was transfers and non-transfers.

Transfers	110
Non-transfers	247

Information about each student was reviewed and the following was extracted:

1. Gender
2. Number of times he/she took the test
3. PPST Reading score
4. PPST Mathematics score
5. PPST Writing score
6. NTE Communication Skills score
7. NTE General Knowledge score
8. NTE Professional Knowledge score
9. ACT Composite score
10. ACT English score
11. ACT Math score
12. ACT Social Science score
13. ACT Science score
14. Overall GPA
15. Transfer/Non-transfer status

Analysis of Data:

The purpose of this study was to determine relationships between students' scores on the ACT, PPST, NTE, and Overall College GPA. A secondary purpose was to determine if the requirement by many teacher education programs of students to take the Pre-Professional Skills Test (PPST) is unnecessary because it simply restates information provided by the ACT.

In addition, it was to be further determined if other factors such as Overall GPA and performance on the ACT serve as predictors of success on the PPST and the NTE.

The first test was an ANOVA, or Analysis of Variance , using gender or *sex* as the independent variable:

Females	1
Males	2

The following were dependent variables:

Group	# of Observations	Dependent Variables
1	355	PRD (PPST Reading scores)
2	356	PMAT (PPST Mathematics scores)
3	356	PWRT (PPST Writing scores)
4	355	NCOM (NTE Communication Skills scores)
5	357	NGEN (NTE General Knowledge scores)
6	352	NPRO (NTE Professional Skills scores)
7	218	ACTCMP (ACT Composite scores)
8	218	ACTE (ACT English scores)
9	218	ACTM (ACT Math scores)
10	218	ACTSS (ACT Social Science scores)
11	218	ACTSC (ACT Science scores)
12	348	GPA (College Overall Grade Point Average)

The results were as follows:

Table 1
COMPARISON OF DEPENDENT VARIABLES BY SEX (Gender)

Dependent Variable	DF_b	DF_w	R^2 Value	Mean 1 in N cases	Mean 2 in N cases	Significance
PRD	1	353	0.0033	176.59	177.29	0.2812
PMAT	1	354	0.0025	177.74	179.72	0.3468
PWRT	1	354	0.0024	176.24	175.86	0.3571
NCOM	1	353	0.0000	660.77	660.78	0.9911
NGEN	1	355	0.0600	657.13	663.67	0.0001*
NPRO	1	350	0.0001	657.80	658.52	0.8627
ACTCMP	1	216	0.0215	18.24	19.88	0.0306*
ACTE	1	216	0.0242	19.77	19.24	0.4703
ACTM	1	216	0.0154	15.66	17.65	0.0670
ACTSS	1	216	0.0084	17.22	18.63	0.1783
ACTSC	1	216	0.0693	19.83	23.24	0.0001*
GPA	1	346	0.0354	3.21	2.99	0.0040*

* Indicates statistical significance at 0.05.

The results of the analysis indicate that males score significantly higher than females on the General Knowledge subtest of the NTE, Science subtest of the ACT, and the ACT Composite. Females outperform males when GPA is the dependent variable.

The second test was an ANOVA, or Analysis of Variance , using major as the independent variable:

Group	Independent Variables
1	Elementary Education
2	Early Childhood Education
3	Secondary Education (any field)
4	Agriculture or Home Economics Education
5	Special Education
6	Health and Physical Education
7	Music Education

The dependent variables were:

Group	# of Observations	Dependent Variables
1	353	PRD (PPST Reading scores)
2	353	PMAT (PPST Mathematics scores)
3	353	PWRT (PPST Writing scores)
4	352	NCOM (NTE Communication Skills scores)
5	354	NGEN (NTE General Knowledge scores)
6	349	NPRO (NTE professional Skills scores)
7	218	ACTCMP (ACT Composite scores)
8	218	ACTE (ACT English scores)
9	218	ACTM (ACT Math scores)
10	218	ACTSS (ACT Social Science scores)
11	218	ACTSC (ACT Science scores)
12	345	GPA (College Overall Grade Point Average)

The results were as follows:

Table 2
COMPARISON OF DEPENDENT VARIABLES BY MAJOR

Dependent Variable	DF_b	DF_w	R^2 Value	Major	Mean in N cases	Test Mean	Significance Level
PRD	6	346	0.1075	1	175.89	176.74	0.0001
				2	175.84		
				3	178.78*		
				4	175.52		
				5	175.74		
				6	173.83*		
				7	178.83*		
PMAT	6	346	0.1075	1	175.13*	178.24	0.0001
				2	175.10*		
				3	181.05*		
				4	176.38		
				5	183.53*		
				6	176.90		
				7	179.44		
PWRT	6	346	0.0632	1	175.62	176.17	0.0009
				2	176.68		
				3	176.92		
				4	174.67		
				5	176.29		
				6	174.83*		
				7	177.72*		
NCOM	6	345	0.1108	1	659.04	660.83	0.0001
				2	661.10		
				3	664.54*		
				4	659.95		
				5	658.76		
				6	654.10*		
				7	663.94*		
NGEN	6	347	0.1656	1	655.13	658.71	0.0001
				2	656.48		
				3	664.60*		
				4	656.29		
				5	654.29		
				6	654.76*		
				7	665.67*		
NPRO	6	342	0.0597	1	658.90	657.96	0.0017
				2	661.74		
				3	662.77*		
				4	655.00		
				5	659.91		
				6	631.79*		
				7	658.89		

*Represents highest and lowest mean of each variable.

Table 2 (Continued)
COMPARISON OF DEPENDENT VARIABLES BY MAJOR

Dependent Variable	DF_b	DF_w	R^2 Value	Major	Mean in N cases	Test Mean	Significance Level
ACTCMP	6	211	0.1992	1	17.37	18.62	0.0001
				2	16.58*		
				3	21.23*		
				4	15.74*		
				5	17.00		
				6	18.05		
				7	21.90*		
ACTE	6	211	0.1069	1	19.25	19.64	0.0005
				2	18.79		
				3	21.26*		
				4	17.42*		
				5	19.05		
				6	17.55*		
				7	22.50*		
ACTM	6	211	0.1472	1	14.60	16.13	0.0001
				2	13.63*		
				3	19.57*		
				4	13.00*		
				5	14.05		
				6	15.09		
				7	18.60*		
ACTSS	6	211	0.1284	1	16.65	17.55	0.0001
				2	15.33		
				3	20.11*		
				4	13.32*		
				5	16.05		
				6	17.14		
				7	21.70*		
ACTSC	6	211	0.1908	1	18.38*	20.62	0.0001
				2	18.13*		
				3	23.56*		
				4	19.21		
				5	18.52		
				6	21.09		
				7	23.80*		
GPA	6	338	0.0621	1	3.25*	3.15	0.0013
				2	3.16		
				3	3.15		
				4	2.89*		
				5	3.18		
				6	2.86*		
				7	3.30*		

*Represents highest and lowest mean of each variable.

The analysis indicates that on the PPST Reading subtest, Secondary and Music Education majors scored the highest, and Physical Education majors scored the lowest. On the PPST Math subtest, Secondary and Special Education majors significantly outscored Elementary and Early Childhood Education majors. On the PPST Writing subtest, Music majors' scores ranked the highest, while Health and Physical Education majors ranked lowest.

Secondary and Music Education majors exhibited the highest scores on the Communications Skills and General Knowledge subtests of the NTE. Health and Physical Education majors exhibited the lowest scores. Secondary Education majors also exhibited the highest scores on the Professional Knowledge subtest of the NTE. Health and Physical Education majors scored the lowest on the Professional Knowledge subtest of the NTE.

The ACT Composite scores of Secondary and Music Education majors were significantly higher than those of Agriculture/Home Economics and Early Childhood Education majors, who scored lowest. Secondary and Music Education majors consecutively scored highest on the English, Mathematics, Social Studies, and Science subtests of the ACT. Agriculture/Home Economics majors exhibited the lowest scores on the Math and Social Studies subtests of the ACT. Early Childhood majors scored lowest along with the Agriculture/Home Economics majors on the Math subtest of the ACT, and also scored lowest along with Elementary Education majors on the Science subtest of the ACT. Health and Physical Education majors displayed the lowest scores on the English subtest of the ACT.

Though Elementary Education majors scored the lowest on the Mathematics subtest of the PPST and the Science subtest of the ACT, they exhibited the highest GPA, second to Music Majors. Agriculture/Home

Economics majors displayed the lowest.

The third test was an ANOVA, or Analysis of Variance , using the number of times the PPST was taken. The independent variables were:

Group	Independent Variables
1	PPST taken one time
2	PPST taken more than one time

The results were as follows:

Table 3
COMPARISON OF DEPENDENT VARIABLES BY TAKE

Dependent Variable	DF_b	DF_w	R^2 Value	Mean 1 in N cases	Mean 2 in N cases	Significance
PRD	1	353	0.2229	178.09	172.53	0.0001*
PMAT	1	354	0.0029	178.74	176.60	0.3100
PWRT	1	354	0.1633	176.91	173.77	0.0001*
NCOM	1	353	0.2981	663.75	651.60	0.0001*
NGEN	1	355	0.2512	661.95	648.64	0.0001*
NPRO	1	350	0.0112	659.99	651.83	0.0471*
ACTCMP	1	216	0.2492	19.92	14.26	0.0001*
ACTE	1	216	0.2511	20.89	15.44	0.0001*
ACTM	1	216	0.1585	17.60	11.20	0.0001*
ACTSS	1	216	0.1356	18.86	13.16	0.0001*
ACTSC	1	216	0.1449	21.76	16.80	0.0001*
GPA	1	346	0.0330	3.20	2.99	0.0007*

*Represents highest and lowest mean of each variable.

Analysis reveals that in all variables, with the exception of the Mathematics subtest of the PPST, there is a significant difference between those students who have taken the PPST one time and those who have taken it more than one time. Students who have taken the PPST one time scored consistently higher than students who have taken it more than once.

The fourth test was an ANOVA, or Analysis of Variance, using transfer/non-transfer students as the independent variables.

Group	Independent Variables
1	Non-transfers
2	Transfers

Table 4
COMPARISON OF DEPENDENT VARIABLES BY TRANSFER/NON-TRANSFER STUDENTS

Dependent Variable	DF_b	DF_w	R^2 Value	Mean 1 in N cases	Mean 2 in N cases	Significance
PRD	1	353	0.0067	176.43	177.28	0.1224
PMAT	1	354	0.0047	177.29	179.68	0.1952
PWRT	1	354	0.0034	176.30	175.91	0.2738
NCOM	1	353	0.0002	660.67	660.92	0.8041
NGEN	1	355	0.0023	658.27	659.40	0.3647
NPRO	1	350	0.0016	659.01	656.31	0.4607
ACTCMP	1	217	0.0000	18.62		
ACTE	1	217	0.0000	19.64		
ACTM	1	217	0.0000	16.13		
ACTSS	1	217	0.0000	17.55		
ACTSC	1	217	0.0000	20.62		
GPA	1	346	0.0414	3.07	3.28	0.0001*

*Represents highest and lowest mean of each variable.

This analysis reveals that there is no significant difference between transfer students and non-transfer students in any of the subtest areas of the PPST or the NTE. There is a significant difference in their college GPAs. The transfer students maintained higher GPAs than the non-transfer students.

Tables 5-23 contain the results from Multiple Regression Analysis.

Table 5
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE GPA

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTE	0.0793	18.08	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.1046	23.92	0.0001
ACTSC		14.22	0.0002

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PWRT	0.1242	4.67	0.0319
ACTCMP		11.81	0.0007
ACTSC		10.65	0.0013

Although there is evidence of statistical significance, the R^2 indicates that all variables are poor predictors of GPA.

Table 6
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NCOM

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.5076	216.45	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6200	75.54	0.0001
ACTE		61.80	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6438	50.71	0.0001
ACTCMP		54.45	0.0001
GPA		20.23	0.0001

The single best predictor of success on the Communication Skills subtest of the NTE is the PPST Reading subtest which accounts for 51% of the variance as indicated by R^2. The addition of the ACT Composite and GPA bring the variance up to 64%.

Table 7
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NGEN

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.5831	293.68	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PMAT	0.6680	53.47	0.0001
ACTCMP		124.92	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6990	21.39	0.0001
PMAT		45.05	0.0001
ACTCMP		56.87	0.0001

The single best predictor of success on the General Knowledge subtest of the NTE is the ACT Composite score which accounts for 58% of the variance as indicated by R^2. The addition of the Mathematics and Reading subtests bring the variance up to 70%.

Table 8
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NPRO

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.4566	176.43	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.5276	48.48	0.0001
ACTCMP		31.41	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.5677	43.19	0.0001
ACTCMP		30.61	0.0001
GPA		19.33	0.0001

The single best predictor of success on the Professional Knowledge subtest of the NTE is the Reading subtest of the PPST, which accounts for 46% of the variance as indicated by R^2. The addition of the ACT Composite and GPA increase the variance to 57%.

Table 9
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PRD

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.4402	169.09	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.4576	38.50	0.0001
ACTE		6.84	0.0096

The single best predictor of success on the Reading subtest of the PPST is the ACT Composite, which accounts for 44% of the variance as indicated by R^2. The addition of the ACT English subtest increases the variance to 46%.

Table 10
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PMAT

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTM	0.4976	212.96	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
ACTM	0.5103	113.52	0.0001
ACTSC		5.55	0.0194

The single best predictor of success on the Mathematics subtest of the PPST is the Mathematics subtest of the ACT, which accounts for 50% of the variance as indicated by R^2. The addition of the ACT Science subtest increases the variance to 51%.

Table 11
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PWRT

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTE	0.3551	118.91	0.0001

The single best predictor of success on the Writing subtest of the PPST is the English subtest of the ACT, which accounts for 36% of the variance as indicated by R^2.

Table 12
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NCOM
FEMALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.5853	224.44	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6742	43.08	0.0001
ACTCMP		77.21	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6997	40.27	0.0001
ACTCMP		74.37	0.0001
GPA		13.36	0.0003

The single best predictor of success on the Communication Skills subtest of the NTE for females is the ACT Composite, which accounts for 59% of the variance as indicated by R^2. The addition of the Reading subtest of the PPST and GPA increase the variance to 70%.

Table 13
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NGEN
FEMALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.6058	244.36	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PMAT	0.6775	35.13	0.0001
ACTCMP		110.56	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.7108	18.07	0.0001
PMAT		27.65	0.0001
ACTCMP		56.80	0.0001

The single best predictor of success on the General Knowledge subtest of the NTE for females is the ACT Composite, which accounts for 61% of the variance as indicated by R^2. The addition of the Reading and Mathematics subtests of the PPST increase the variance to 71%.

Table 14
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NPRO
FEMALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.4934	154.83	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.5954	39.87	0.0001
ACTCMP		44.38	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6391	37.38	0.0001
ACTCMP		41.75	0.0001
GPA		18.98	0.0001

The single best predictor of success on the Professional Knowledge subtest of the NTE for females is the ACT Composite, which accounts for 49% of the variance as indicated by R^2. The addition of the Reading subtest of the PPST and GPA increase the variance to 64%.

Table 15
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PRD
FEMALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.4125	115.13	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.4325	21.66	0.0001
ACTE		5.76	0.0176

The single best predictor of success on the Reading subtest of the PPST for females is the ACT Composite, which accounts for 41% of the variance as indicated by R^2. The addition of the English subtest of the ACT increases the variance to 43%.

Table 16
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PMAT
FEMALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTM	0.4347	126.09	0.0001

The single best predictor of success on the Mathematics subtest of the PPST for females is the Mathematics subtest of the ACT, which accounts for 43% of the variance as indicated by R^2.

Table 17
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PWRT
FEMALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTE	0.3733	98.29	0.0001

The single best predictor of success on the Writing subtest of the PPST for females is the ACT English subtest, which accounts for 37% of the variance as indicated by R^2.

Table 18
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NCOM
MALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.5280	54.82	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.5889	19.63	0.0001
ACTE		7.11	0.0104

The single best predictor of success on the Communication Skills subtest of the NTE for males is the Reading subtest of the PPST, which accounts for 52% of the variance as indicated by R^2. The addition of the Reading subtest of the PPST and the English subtest of the ACT increase the variance to 59%.

Table 19
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NGEN
MALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.4900	47.08	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PMAT	0.6137	36.69	0.0001
ACTSS		24.87	0.0001

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.6489	4.71	0.0351
PMAT		19.27	0.0001
ACTSS		6.38	0.0149

The single best predictor of success on the General Knowledge subtest of the NTE for males is the ACT Composite, which accounts for 49% of the variance as indicated by R^2. The best three-variable predictors are the Reading and Mathematics subtests of the PPST, and the Social Studies subtest of the ACT, which replaced the ACT Composite and brings the R^2 up to 65%.

Table 20
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE NPRO
MALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.4520	40.41	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
PRD	0.4786	23.29	0.0001
PMAT		2.45	0.1238

This is the best Three-Variable Model.

Variable	R^2	F-Value	Significance
PMAT	0.5135	7.00	0.0111
PWRT		7.49	0.0087
ACTSS		14.10	0.0005

The single best predictor of success on the Professional Knowledge subtest of the NTE for males is the Reading subtest of the PPST, which accounts for 45% of the variance as indicated by R^2. The best three-variable predictors are the Mathematics and Writing (which replaces Reading) subtests of the PPST, and the Social Studies subtest of the ACT, which brings the R^2 to 51%.

Table 21
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PRD
MALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.5248	54.12	0.0001

This is the best Two-Variable Model.

Variable	R^2	F-Value	Significance
ACTCMP	0.5492	21.61	0.0001
ACTSC		2.60	0.1133

The single best predictor of success on the Reading subtest of the PPST for males is the ACT Composite, which accounts for 52% of the variance as indicated by R^2. The best two-variable predictors are the Composite and Science subtest scores of the ACT, which bring the R^2 to 55%.

Table 22
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PMAT
MALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTM	0.7163	123.73	0.0001

The single best predictor of success on the Mathematics subtest of the PPST for males is the ACT Mathematics subtest, which accounts for 72% of the variance as indicated by R^2.

Table 23
MAXIMUM R^2 IMPROVEMENT FOR
DEPENDENT VARIABLE PWRT
MALE ONLY

This is the best Single-Variable Model.

Variable	R^2	F-Value	Significance
ACTE	0.3125	22.27	0.0001

The single best predictor of success on the Writing subtest of the PPST for males is the ACT English subtest, which accounts for 31% of the variance as indicated by R^2.

The following matrices, Tables 24-28, are the Pearson Correlation Coefficients/Probabilities of the dependent variables of the entire sample, males in the sample, females in the sample, TTU students, and transfer students. The correlation matrices further display the overlap of all of the dependent variables except GPA.

TABLE 24
PEARSON CORRELATION COEFFICIENTS/PROBABILITIES FOR THE DEPENDENT VARIABLES OF THE ENTIRE SAMPLE

	PRD	PMAT	PWRT	NCOM	NGEN	NPRO	ACTCMP	ACTE	ACTM	ACTSS	ACTSC	GPA
PRD	1.0000	0.1036	0.5127	0.7146	0.6664	0.2000	0.6635	0.6000	0.4746	0.5805	0.5243	0.3150
	0.0000	0.0513	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	355	355	354	353	355	350	217	217	217	217	217	346
PMAT		1.0000	0.0960	0.1582	0.1918	0.260	0.5947	0.3849	0.7054	0.3090	0.5006	0.0657
		0.0000	0.0709	0.0028	0.0003	0.6286	0.0001	0.0001	0.0001	0.0001	0.0001	0.2220
		356	355	354	356	351	217	217	217	217	217	347
PWRT			1.0000	0.5727	0.5085	0.1389	0.5116	0.5959	0.4012	0.3811	0.3445	0.3058
			0.0000	0.0001	0.0001	0.0092	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
			356	354	356	351	218	218	218	218	218	347
NCOM				1.0000	0.7777	0.2627	0.7134	0.6999	0.5207	0.5950	0.5482	0.3943
				0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
				355	355	352	217	217	217	217	217	347
NGEN					1.0000	0.2539	0.7700	0.5794	0.6582	0.6188	0.6336	0.3199
					0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
					357	352	218	218	218	218	218	348
NPRO						1.0000	0.6451	0.6070	0.4730	0.5912	0.4595	0.1716
						0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0014
						352	217	217	217	217	217	344
ACTCMP							1.0000	0.7825	0.7957	0.8229	0.8456	0.2089
							0.0000	0.0001	0.0001	0.0001	0.0001	0.0022
							218	218	218	218	218	213
ACTE								1.0000	0.5295	0.5782	0.5633	0.2812
								0.0000	0.0001	0.0001	0.0001	0.0001
								218	218	218	218	213
ACTM									1.0000	0.4331	0.5815	0.1809
									0.0000	0.0001	0.0001	0.0081
									218	218	218	213
ACTSS										1.0000	0.6342	0.1666
										0.0000	0.0001	0.0149
										218	218	213
ACTSC											1.0000	0.0465
											0.0000	0.5000
											218	213
GPA												1.0000
												0.0000
												348

TABLE 25

PEARSON CORRELATION COEFFICIENTS/PROBABILITIES FOR THE DEPENDENT VARIABLES OF MALES ONLY

	PRD	PMAT	PWRT	NCOM	NGEN	NPRO	ACTCMP	ACTE	ACTM	ACTSS	ACTSC	GPA
PRD	1.0000	0.4787	0.5454	0.7052	0.6689	0.7292	0.7245	0.6287	0.4949	0.6500	0.5885	0.3561
	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0008
	86	86	86	86	86	84	51	51	51	51	51	85
PMAT		1.0000	0.4319	0.5126	0.6491	0.4916	0.5575	0.3251	0.8464	0.1953	0.4668	0.2543
		0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0199	0.0001	0.1695	0.0006	0.0188
		86	86	86	86	84	51	51	51	51	51	85
PWRT			1.0000	0.5782	0.5657	0.5448	0.4138	0.5590	0.3128	0.2801	0.2469	0.2924
			0.0000	0.0001	0.0001	0.0001	0.0025	0.0001	0.0254	0.0465	0.0807	0.0066
			86	86	86	84	51	51	51	51	51	85
NCOM				1.0000	0.7723	0.8588	0.6342	0.6487	0.4383	0.5253	0.5191	0.4297
				0.0000	0.0001	0.0001	0.0001	0.0001	0.0013	0.0001	0.0001	0.0001
				86	86	84	51	51	51	51	51	85
NGEN					1.0000	0.7841	0.7000	0.5592	0.6202	0.5644	0.5402	0.4596
					0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
					86	84	51	51	51	51	51	85
NPRO						1.0000	0.5928	0.5269	0.4162	0.5425	0.4707	0.3764
						0.0000	0.0001	0.0001	0.0024	0.0001	0.0005	0.0005
						84	51	51	51	51	51	83
ACTCMP							1.0000	0.7972	0.7178	0.8364	0.9044	0.2254
							0.0000	0.0001	0.0001	0.0001	0.0001	0.1118
							51	51	51	51	51	51
ACTE								1.0000	0.4590	0.5979	0.6672	0.2869
								0.0000	0.0007	0.0001	0.0001	0.0412
								51	51	51	51	51
ACTM									1.0000	0.3111	0.5887	0.0633
									0.0000	0.0263	0.0001	0.6589
									51	51	51	51
ACTSS										1.0000	0.7338	0.2363
										0.0000	0.0001	0.0951
										51	51	51
ACTSC											1.0000	0.1961
											0.0000	0.1679
											51	51
GPA												1.0000
												0.0000
												85

TABLE 26

PEARSON CORRELATION COEFFICIENTS/PROBABILITIES FOR THE DEPENDENT VARIABLES OF FEMALES ONLY

	PRD	PMAT	PWRT	NCOM	NGEN	NPRO	ACTCMP	ACTE	ACTM	ACTSS	ACTSC	GPA
PRD	1.0000	0.0680	0.5090	0.7213	0.6754	0.1606	0.6422	0.5976	0.4649	0.5522	0.5078	0.3260
	0.0000	0.2663	0.0001	0.0001	0.0001	0.0087	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	269	269	268	267	269	266	166	166	166	166	166	261
PMAT		1.000	0.0726	0.1329	0.1501	0.0114	0.5922	0.4421	0.6593	0.3362	0.4669	0.0635
		0.0000	0.2353	0.0296	0.0136	0.8530	0.0001	0.0001	0.0001	0.0001	0.0001	0.3061
		270	269	268	270	267	166	166	166	166	166	262
PWRT			1.000	0.5744	0.5296	0.1101	0.5594	0.6110	0.4372	0.4250	0.4078	0.3022
			0.0000	0.0001	0.0001	0.0724	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
			270	268	270	267	167	167	167	167	167	262
NCOM				1.0000	0.8137	0.2215	0.7681	0.7192	0.5685	0.6356	0.6106	0.3910
				0.0000	0.0001	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
				269	269	268	166	166	166	166	166	262
NGEN					1.000	0.2259	0.7856	0.6300	0.6623	0.6379	0.6270	0.3570
					0.0000	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
					271	268	167	167	167	167	167	263
NPRO						1.000	0.7812	0.6373	0.5217	0.6321	0.5219	0.1684
						0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0064
						268	166	166	166	166	166	261
ACTCMP							1.000	0.8003	0.8138	0.8181	0.8285	0.2438
							0.0000	0.0001	0.0001	0.0001	0.0001	0.0018
							167	167	167	167	167	162
ACTE								1.000	0.5666	0.5817	0.5771	0.2751
								0.0000	0.0001	0.0001	0.0001	0.0004
								167	167	167	167	162
ACTM									1.0000	0.4656	0.5692	0.2465
									0.0000	0.0001	0.0001	0.0016
									167	167	167	162
ACTSS										1.0000	0.6042	0.1688
										0.0000	0.0001	0.0317
										167	167	162
ACTSC											1.0000	0.0662
											0.0000	0.4030
											167	162
GPA												1.0000
												0.0000
												263

TABLE 27
PEARSON CORRELATION COEFFICIENTS/PROBABILITIES FOR THE
DEPENDENT VARIABLES OF NON-TRANSFER STUDENTS ONLY

PRD	PMAT	PWRT	NCOM	NGEN	NPRO	ACTCMP	ACTE	ACTM	ACTSS	ACTSC	GPA
1.000	0.5032	0.5096	0.7090	0.6730	0.6709	0.6635	0.6000	0.4746	0.5805	0.5243	0.2413
0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0004
217	217	217	216	217	216	217	217	217	217	217	212
PMAT	1.0000	0.3276	0.4471	0.6901	0.4032	0.5947	0.3849	0.7054	0.3090	0.5006	0.1370
	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0463
	217	217	216	217	216	217	217	217	217	217	212
PWRT		1.0000	0.5582	0.4564	0.4606	0.5116	0.5959	0.4012	0.3811	0.3445	0.2692
		0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
		218	217	218	217	218	218	218	218	218	213
NCOM			1.0000	0.7302	0.8065	0.7134	0.6999	0.5207	0.5950	0.5482	0.3708
			0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
			217	217	217	217	217	217	217	217	213
NGEN				1.0000	0.6792	0.7700	0.5794	0.6582	0.6180	0.6336	0.2008
				0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0032
				218	217	218	218	218	218	218	213
NPRO					1.0000	0.6451	0.6070	0.4030	0.5912	0.4595	0.3747
					0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
					217	217	217	217	217	217	213
ACTCMP						1.0000	0.7825	0.7957	0.8229	0.8456	0.2089
						0.0000	0.0001	0.0001	0.0001	0.0001	0.0022
						218	218	218	218	218	213
ACTE							1.0000	0.5296	0.5782	0.5633	0.2812
							0.0000	0.0001	0.0001	0.0001	0.0001
							218	218	218	218	213
ACTM								1.0000	0.4331	0.5815	0.1809
								0.0000	0.0001	0.0001	0.0081
								218	218	218	213
ACTSS									1.0000	.06342	0.1666
									0.0000	0.0001	0.0149
									218	218	213
ACTSC										1.0000	0.0465
										0.0000	0.5000
										218	213
GPA											1.0000
											0.0000
											213

TABLE

PEARSON CORRELATION COEFFICIENTS/PROBABILITIES FOR THE DEPENDENT VARIABLES OF TRANSFER STUDENTS ON LY

PRD	PMAT	PWRT	NCOM	NGEN	NPRO	GPA
1.0000	-0.0021	0.5386	0.7234	0.6567	0.1332	0.3801
0.0000	0.9801	0.0001	0.0001	0.0001	0.1248	0.0001
138	138	137	137	138	134	134
PMAT	1.0000	0.0516	0.1059	0.0820	0.0034	0.0403
	0.0000	0.5478	0.2164	0.3373	0.9686	0.6427
	139	138	138	139	135	135
PWRT		1.0000	0.6023	0.5924	0.0861	0.4119
		0.0000	0.0001	0.0001	0.3225	0.0001
		138	137	138	134	134
NCOM			1.0000	0.8314	0.1882	0.4326
			0.0000	0.0001	0.0288	0.0001
			138	138	135	134
NGEN				1.0000	0.2091	0.4507
				0.0000	0.0150	0.0001
				139	135	135
NPRO					1.0000	0.1842
					0.0000	0.0352
					135	131
GPA						1.0000
						0.0000
						135

Summary

The study was designed to evaluate the relationships between students' scores on three standardized tests: the *American College Test*, a college entrance exam, the *Pre-Professional Skills Test* (PPST), generally used for admission to university teacher preparation programs, the *NTE* (formerly the National Teachers Exam), a certification test, and students' overall Grade Point Average (GPA). It was to be determined if the requirement by many teacher education programs of students to take the PPST is unnecessary in terms of time, money, and redundancy in relation to scores on the ACT.

It was further to be determined if other factors such as overall college GPA and performance on the ACT serve as predictors of success on the PPST and the NTE.

The data gathered were subject to Analysis of Variance (ANOVA), Multiple Regression Analysis, and Pearson's Correlation. The ANOVA procedure was run using gender, major, PPST taken one time/PPST taken more than one time, and transfers/non-transfer students as independent variables. The PPST and NTE subtests were subjected to Multiple Regression Analysis using the entire sample, female only and male only as the independent variables. Correlation matrices using the same independent variables were provided for further analysis.

Based on the analysis, it was found males score higher than females on the General Knowledge subtest of the NTE, Science subtest of the ACT, and ACT Composite. The females maintain higher grade point averages. Elementary Education majors were among the highest in GPA, although they exhibited among the lowest scores on the Mathematics subtest of the PPST and Science subtest of the ACT.

Early Childhood majors ranked among the lowest on the Mathematics subtests of the PPST and the ACT, Science subtest of the ACT, and ACT Composite. Secondary Education majors ranked among highest on the Reading and Mathematics subtests of the PPST, General and Professional Knowledge subtests of the NTE and all areas of the ACT. Agriculture/Home Economics majors ranked among the lowest on ACT Composite, English, Mathematics, and Social Studies subtests of the ACT, and maintained low grade point averages. Special Education majors scored among the highest on the Mathematics subtest of the PPST. Health and Physical Education majors scored among the lowest on the Reading and Writing subtests of the PPST, Communication Skills and General and Professional Knowledge subtests of the NTE, and the English subtest of the ACT and maintained the lowest GPAs. Music Education majors exhibited high scores on the Reading and Writing subtests of the PPST, Communication Skills and General Knowledge subtests of the NTE, all areas of the ACT and maintained the highest grade point averages.

In every dependent variable, with the exception of the Mathematics subtest of the PPST, students who took the PPST one time scored consistently higher than students who took the PPST more than once. The only significant difference between transfer and non-transfer students was that transfer students maintained higher GPAs.

Multiple Regression Analysis indicates that all variables are poor predictors of grade point average. On the Communication Skills of the NTE, the best single predictor of success for the entire group and the male only group was the Reading subtest of the PPST. The ACT Composite was the single best predictor of success for the females. On the General Knowledge subtest of the NTE, the single best predictor for all groups was the ACT

Composite. On the Professional Knowledge subtest of the NTE, the single best predictor for the entire group and male only group was the Reading subtest of the PPST, while for the female only group it was the ACT Composite. The ACT Composite also served as the single best predictor for all groups concerning the Reading subtest of the PPST. The Mathematics subtest of the ACT served as the single best predictor of success on the Mathematics subtest of the PPST for all groups. The single best predictor of success on the Writing subtest of the PPST for all groups was the English subtest of the ACT.

Conclusions

There are relationships between the American College Test, the Pre-Professional Skills Test, and the NTE. Evidence gathered from the Multiple Regression Analysis indicates that ACT scores are significant predictors of performance on the PPST. It follows then, that results from the PPST are in fact redundant. Further evidence suggests that performance on the PPST is a significant predictor of performance on the NTE. This overlap would suggest that the testing of students by many teacher education programs is unnecessary.

There is no relationship between grade point average and performance on the standardized tests. Of the variables used in this study, none relate significantly to grade point average.

Recommendations

Based on the evidence from this study, it is recommended that in cases where ACT scores are available and reflect an adequate performance level, the taking of the PPST should be waived. In cases where ACT scores are not available, the PPST could be used as a measure of proficiency. In the cases where remediation occurred ACT scores may not be an accurate reflection and the PPST should be taken.

Although the NTE appears to reflect information obtained from the ACT and the PPST, the call for teacher accountability mandates the use of a standardized post-test. The ACT as a pretest and the NTE as a post-test should be sufficient indicators of proficiency.

GPA should not be used as a criterion for exemption from standardized tests because it does not appear to be a measure of academic ability.

It is the authors' recommendation that this study be expanded to include other factors such as: SAT, PSAT and high school GPA. These factors may increase the validity of or replace existing factors.

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